

PREFACE

For almost three decades following the first flare detection on a dMe star in 1948, solar and stellar flare research more or less went their separate ways: various aspects of solar flares were observed but hardly ever white-light events, whereas on the stellar side optical flaring was virtually the only observable phenomenon. With the first X-ray detections of flares on UV Ceti, YZ CMi, and Proxima Centauri in the mid-1970's things changed dramatically and by the time of the 1982 Catania IAU Colloquium No. 71, *Activity in Red Dwarf Stars*, space observations of flare stars was an exciting topic. Nonetheless, participation at that meeting was still dominated by the stellar community. The Palo Alto IAU Colloquium No. 104, *Solar and Stellar Flares*, is the successor to the Catania meeting, and is the first major IAU conference to bring together solar and stellar topics and investigators on an even footing. More and more, solar and stellar researchers are speaking the same language and addressing the same problems; moreover there has been an increase in the number of investigators who actually do research on both sides. The Solar Maximum Mission, especially, seems to have been a catalyst for such 'crossover' activity.

This conference was four years in the planning, and thus it was with a certain measure of relief that we finally welcomed 200 scientists from 29 countries to Stanford University on 15–19 August, 1988. To bring this about required support of many sorts from many sources. The conference was co-hosted by three institutes: the Lockheed Palo Alto Research Laboratory, the University of Catania and Stanford University. We were fortunate in obtaining generous funding from the NASA Solar Maximum Mission project to organize the meeting, and for this we owe special gratitude to SMM XRP Principal Investigator, Dr Keith T. Strong, and SMM Project Scientist, Dr Joseph B. Gurman. As a result we were able to engage the outstanding logistical support of the SLW Associates, Susan Sweeney, Margaret London, and Nancy Winton, professional conference organizers. Inviting 200 guests to town for a week is no job for amateurs! Extensive additional funding for travel was also provided by NASA, and by the IAU, ESA, and COSPAR; this allowed us to support approximately half of the participants. The all important meeting bags were generously provided by Lockheed, and well supplied coffee breaks were paid for by the Stanford Solar Observatory, Lockheed and Kluwer Academic Publishers. Mailings and other miscellaneous logistics were underwritten by the Catania Astrophysical Observatory and Lockheed. The Scientific Organizing Committee was chaired by us with invaluable support from SOC member Peter Sturrock. Other members of the SOC were R. Bonnet, J. Butler, L. Cram, R. Gershberg, M. Giampapa, D. Gibson, C. de Jager, C. Jordan, M. Machado, M. Oda, E. Priest, and H. Zirin.

As promised, the skies were clear and the temperatures balmy every single day. Social events included a Sunday night reception, a Tuesday night wine and cheese in the Stanford Rodin Garden and a Thursday night banquet at the Stanford Faculty Club with a lecture by Dr Morris Berman. Most memorable, perhaps, was the Monday night

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concert at Dinkelspiel Auditorium 'An Evening of Songs and Arias' hosted by Dr Kip Cranna of San Francisco Opera, produced and directed by Elizabeth Tucker, and featuring soprano Ellie Holt Murray, mezzo-soprano Marsha Sims, tenor Richard Walker, and baritone David Taft Kekuewa, with piano accompaniment by Mark Haffner, staff coach for San Francisco Opera.

Two scientific themes clearly emerged from this conference: (1) the key to progress in flare research lies in a multispectral approach with as much temporal resolution as the photon fluxes allow; and (2) the key to understanding the physics lies in a dynamic interaction between solar and stellar investigations and investigators. During the eight sessions solar and stellar topics were balanced and intermixed in 33 invited and oral presentations. We are particularly pleased that these proceedings will be the springboard to publication of solar-stellar articles in the journal *Solar Physics*. In addition, 115 very exciting posters were also displayed and a companion volume containing many of these is available as a publication of the Catania Astrophysical Observatory.

We dedicate this book to the Solar Maximum Mission and to the Flare Star Consortium. To all our solar-stellar friends and colleagues: 'Thank you!'

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28 March, 1989